

Serial No. 10/037,590

### **Specification Amendments**

**Please amend the Abstract of Disclosure as follows:**

Embodiments of a call classifier classify ~~Classifying~~ a call to a called destination endpoint ~~by a call classifier~~. The call classifier is responsive to information received from the called destination endpoint to perform the call classification.

**Please amend the paragraph starting on page 7, line 4 as follows:**

To better understand the operation of the system of FIG. 1, consider the following example. Telephone 127 places a call to telephone 123 that is connected to local office 119, this call could be rerouted by interexchange carrier 122 or local office 119 to another telephone such as soft phone 114 or wireless phone 118. This rerouting would occur based on a call coverage path for telephone 123 or simply, if the user of telephone 127 ~~miss-dials~~ misdials. For example, prior art call classifiers were designed to anticipate that if interexchange carrier 122 redirected the call to voice mail system 129 as a result of call coverage, that interexchange carrier 122 would transmit the appropriate SIT tone or other known progress tones to PBX 100. However, in the modern telecommunication industry, interexchange carrier 122 is apt to transmit a branding message identifying the interexchange carrier. In addition, the call may well be completed from telephone 127 to telephone 123 however telephone 123 may employ an answering machine, and if the answering machine responds to the incoming call, call classifier 106 needs to identify this fact.

**Please amend the paragraph starting on page 21, line 27 as follows:**

FIG. 7 illustrates advantageously one hardware embodiment of inference engine 201. One skilled in the art would readily realize that inference engine could be implemented in many different ways including

Serial No. 10/037,590

wired logic. Processor 702 receives the classification results or evidence from blocks 203-207 and processes this information utilizing memory 701 using well-established techniques for implementing an inference engine based on the rules. The rules are stored in memory 701. The final classification decision is then transmitted to controller 209.

**Please amend the paragraph starting on page 22, line 6 as follows:**

The second embodiment of block 207 is illustrated, in flowchart form, in FIGS. 8 and 9. One skilled in the art would readily realize that other embodiments could be utilized. Block 801 accepts 10 milliseconds of framed data from switching network 102. This information is in 16 bit linear input form in the present embodiment. However, one skilled in the art would readily realize that the input could be in any number of formats including but not limited to 16 bit or 32 bit floating point. This data is then processed in parallel by blocks 802 and 803. Block 802 performs a fast speech detection analysis to determine whether the information is a speech or a tone. The results of block 802 are transmitted to decision block 804. In response, decision block 804 transmits a speech control signal to block 805 or a tone control signal to block 806. Block 803 performs the front-end feature extraction operation which is illustrated in greater detail in FIG. 10. The output from block 803 is a full feature vector. Block 805 is responsive to this full feature vector from block 803 and a speech control signal from decision block 804 to transfer the unmodified full feature vector to block 807. Block 806 is responsive to this full feature vector from block 803 and a tone control signal from decision block 804 to add special feature bits to the full feature vector to identify it as a vector that contains a tone. The output of block 806 is transferred to block 807. Block 807 performs a Hidden Markov Model (HMM) analysis on the input feature vectors. One skilled in the art would readily realize that other alternatives to HMM could be used such as Neural Net analysis.

Serial No. 10/037,590

Block 807 as can be seen in FIG. 11 actually performs one of two HMM analysis depending on whether the frames were designated as speech or tone by decision block 804. Every frame of data is analyzed to see whether an end-point is reached. Until the end-point is reached, the feature vector is compared with a stored trained data set to find the best match. After execution of block 807, decision block 809 determines if an end-point has been reached. An end-point is a change in energy for a significant period of time. Hence, decision block 809 detects the end of the energy. If the answer in decision block 809 is no, control is transferred back to block 801. If the answer in decision block 809 is yes, control is transferred to decision block 811 which determines if decoding is for a tone rather than speech. If the answer is no, control is transferred to decision block 901 of FIG. 9.